

then evaluated for resistance to neutral protease (trypsin) and to vertebrate collagenase. These results were compared to standard glutaric collagen (excess glutaric anhydride). Table 1 shows the results from such evaluation.

TABLE 1

RESISTANCE TO NEUTRAL PROTEASE AND COLLAGENASE RESISTANCE (%), 24-25 HOURS			
	Buffer	Trypsin	Vertebrate Collagenase
Standard Glutaric	95	30	30
Resistant Glutaric	100	87.4	94.7

## EXAMPLE 7

## Glutaric Collagen Prepared From Rabbit Skin

Approximately 10 g of rabbit skin, obtained from New Zealand White Rabbits, was dissected to recover the dermal layer. Approximately 2.2 g of wet dermis were obtained. The dermis was immersed in 95% specially denatured ethyl alcohol (SDA-4, J. T. Baker, Inc., Phillipsburg, N.J.) for 16 hours and then placed in 20 ml of 0.04M Tris buffer (pH 8.5) containing 0.85% NaCl. After 4 hours, the rabbit dermis was minced with scissors and pulverized by three 30 second pulses with a OMNI homogenizer (Omni International, Waterbury, Conn.) with a 10 mm generator. Three separate aliquots of solid glutaric anhydride at 5% (w/w) of the wet dermic weight was then added to the pulverized dermis aliquots. After each addition, the tissue was again pulverized for three-30 second pulses. The rabbit tissue appeared to disperse into a cloudy gelatinous mass with no fiber units. The dispersed rabbit dermis was then diluted to 50 ml with 0.04M Tris buffer (pH 8.5) and pH of the solution was reduced to about 4.3. A large fibrous mass formed which was then washed three times with sterile water and dissolved in 3 ml of phosphate buffered saline (5 mM phosphate buffer with 0.85% NaCl at pH 7.4). A viscous, clear solution formed which was then placed in three 1.0 ml syringes for use as an injectable IOL in rabbit models.

## EXAMPLE 8

## Glutaric Collagen Prepared From Human Skin

Approximately 2.8 g of human skin was obtained from 3.5 mm biopsy punches. The biopsies were stored in 95% specially denatured ethyl alcohol (SDA-4) and then dissected to recover the dermal layer. Dermal sections, 0.8 g, were placed in 0.85% NaCl overnight and then transferred to 0.05M Tris buffer, pH 8.5, for 2 hours. The sections were minced with scissors and pulverized with an OMNI homogenizer having a 10 mm generator. Three 30 second pulses were employed in the pulverization process. Two separate 12.5 mg aliquots of solid glutaric anhydride was added to the pulverized tissue. After each addition, the tissue was again pulverized for three 30 second pulses.

The tissue appeared to disperse well into a mixture of gelatinous material and fibers. The mixture was centrifuged at 3200 rpm for 20 minutes and the fibrous pellet discarded. The cloudy supernatant was adjusted to pH 4.3 to precipitate the modified dermal collagen. The precipitate was washed three times with sterile water and then dissolved in phosphate buffered glycerol (2% glycerol in 4 mM phosphate buffer, pH 7.4) to form a relatively clear, viscous material. This material was filtered through a 5 micron syringe filter and the resulting clear solution centrifuged at 8,000 rpm to

remove air bubbles. The final solution was transparent and had a viscosity of 85,000 cps. The material was placed in quartz concave molds (diameter 7 mm, 5.5 mm base curve) and exposed to 254 nm UV irradiation for 15 minutes. The resultant molded lens exhibited a refractive index of 1.424. The lens was placed in a 0.02% trypsin solution (50 mM TRIS buffer, 150 mM NaCl 1 mM CaCl<sub>2</sub>, 1 uM ZnCl<sub>2</sub> and 0.05% NaN<sub>3</sub>, pH 8.0) and incubated at 37° C. After two weeks, no observable degradation of the lens was observed.

What is claimed is:

1. A method of making an intraocular lens in an intact lens capsular sac comprising the steps of:

removing the natural lens from the capsular sac

injecting a modified collagen composition into said lens capsular sac in an amount sufficient to fill said lens capsular sac; and

exposing said modified collagen composition in said lens capsular sac to a polymerization agent so as to polymerize and form said intraocular lens.

2. The method according to claim 1 wherein said modified collagen composition has an index of refraction ranging between about 1.325 and about 1.425.

3. The method of forming an intraocular lens in a lens capsular sac, said natural lens having been removed from said lens capsular sac, comprising

injecting a modified collagen composition into said lens capsular sac in an amount sufficient to form said intraocular lens and

polymerizing said modified collagen composition in said lens capsular sac so as to form said intraocular lens.

4. The method according to claim 3, wherein said lens has an index of refraction ranging between about 1.325 and about 1.425.

5. The method according to claim 3, wherein said modified collagen composition comprises collagen modified with an acylating agent, a sulfonating agent, or combination thereof by an amount ranging between about 0.5 and about 20 wt. %, based on total collagen.

6. The method according to claim 3, wherein said modified collagen composition comprises partially fibrillar collagen or solubilized collagen.

7. The method according to claim 3, wherein said collagen comprises purified Type I collagen, purified Type III collagen, purified Type IV collagen, collagen rich tissue or a combination of the foregoing.

8. The method according to claim 3 wherein said collagen comprises Type I collagen.

9. The method according to claim 8 wherein said Type I collagen is derived from human tissue or animal tissue.

10. The method according to claim 9 wherein said Type I collagen comprises autogenic human tissue.

11. The method according to claim 5 wherein said acylating agent is selected from the group consisting of glutaric anhydride, succinic anhydride, lauric anhydride, diglycolic anhydride, methyl succinic anhydride, methyl glutaric anhydride, dimethyl glutaric anhydride, methacrylic anhydride, trifluoroacetic anhydride, ethylene/maleic anhydride copolymer, styrene/maleic anhydride copolymer, phthalic anhydride, and any combination of the foregoing.

12. The method according to claim 11 wherein said acylating agent comprises glutaric anhydride.

13. The method according to claim 5 wherein said sulfonating agent is selected from the group consisting of anthraquinone-1,5-disulfonic acid, 2-(chlorosulfonyl)-anthraquinone, 8-hydroxyquinoline sulfonic acid, 2-naphthalene sulfonyl chloride, beta-styrene sulfonyl chloride,